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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,495	01/18/2001	William A. Arden	1390.001US1	6540
21186	7590	11/18/2004	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			PHAM, TOAN NGOC	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/765,495

Applicant(s)

ARDEN, WILLIAM A.

Examiner

Toan N Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-31 is/are allowed.
- 6) ☒ Claim(s) 1-12, 32 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/18/01</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 32 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunt (US 5,581,229).

Regarding claim 32: Hunt discloses a method of communication information over a power line transmitting power at a power line frequency, the method comprising: creating a modulated signal representative of the information and having a carrier frequency which is derived from the power line with carrier frequencies between 600 Hz and 10KHZ; and coupling the modulated signal onto the power line (col. 3, lines 27-67; col. 5, lines 35-40).

Regarding claim 33: Hunt discloses the modulated signal is created using a single modulation operation (col. 4, lines 42-46).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt (US 5,581,229).

Regarding claim 1: Hunt discloses a communication system for communicating over power line comprising a data signal generator (28) for modulating the signal representative of the information and coupling the modulated signal onto the power line (col. 3, lines 25-62). Hunt does not disclose having a carrier frequency of less than ten Hertz; however, Hunt discloses a plurality of output carrier signals may simultaneously be applied to power line (20) from other like data encoders (10) (col. 3, lines 56-57). Thus, it would have been obvious to one of ordinary skill in the art to utilize different carrier frequency to apply to the power line for transmitting the data signal.

Regarding claim 2: Hunt discloses the modulated signal is a frequency shift key signal (col. 3, lines 27-40).

Regarding claim 3: Hunt discloses the input is converted into space and mark frequencies (col. 6, lines 39-41; col. 9, lines 13-16).

Regarding claim 4: Hunt discloses the carrier frequency is a multiple of the power line frequency (col. 6, lines 53-61).

Regarding claim 5: Hunt discloses the carrier frequency is a non-integer multiple of the power line frequency selected to fall between the harmonics of the power line frequency (col. 6, lines 13-61).

Regarding claims 8-10: Hunt discloses a plurality of output carrier signals may simultaneously be applied to power line (20) from other like data encoders (10) (col. 3, lines 56-57). Thus, it would have been obvious to one of ordinary skill in the art to

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utilize different carrier frequency to apply to the power line for transmitting the data signal.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt (US 5,581,229) in view of Dalichau (US 6,671,501).

Regarding claim 6: Hunt does not disclose modulating the signal onto the power line applies a voltage signal. Dalichau discloses coupling the modulated signal onto the power line applies a voltage signal (Figs, 1, 2). At the time of the invention, it would have been obvious to one of ordinary skill in the art to coupled the voltage signal on the power line as taught by Dalichau in a system as disclosed by Hunt to provide an active circuit.

Regarding claim 7: Dalichau discloses the use of a resonant circuit (col. 4, lines 35-40).

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt (US 5,581,229) in view of Propp et al. (US 4,815,106).

Regarding claim 11: Hunt does not disclose the information is arranged in packets of data. Propp et al. discloses a power line communication system includes transmitting in packets data using special data link protocol (col. 13, lines 17-24). At the time of the invention, it would have been obvious to one of ordinary skill in the art to utilized packets data as taught by Propp et al. in a system as disclosed by Hunt for transmitting large bytes for information effectively.

Regarding claim 12: Propp et al. disclose utilizing the special data link protocol (col. 13, lines 18-24); thus, it is merely a matter of design choice to use other kinds of protocols for transmitting large data.

***Allowable Subject Matter***

Claims 13-31 are allowed.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art of de Buda (US 6,549,120), Fogel et al. (US 6,608,552), Cunningham (US 6,329,905), Croushore et al. (US 6,278,357), and Abraham (US 6,407,987) are cited to show a variety of power line communication systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan N Pham whose telephone number is (571) 272-2967. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 9, 2004

TOAN N. PHAM  
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Toan N. Pham', written over a horizontal line.